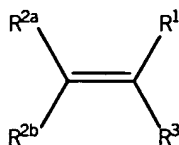


(I)



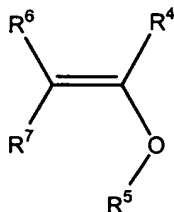
wherein

R¹ is H, F, CN, CH₃, or C₁₋₆ fluoroalkyl,

R^{2a} and R^{2b} are independently H or F, and

R³ is CN or COOR, wherein R is selected from the group consisting of H, C₁₋₁₂ alkyl and C₁₋₁₂ fluoroalkyl, or is selected so as to render R³ acid-cleavable; and
a second monomer having the structure of formula (II)

(II)



wherein

R⁴ is H, C₁₋₁₂ alkyl, C₃₋₁₅ alicyclic, or fluorinated C₃₋₁₅ alicyclic,

R⁵ is C₁₋₁₂ alkyl, C₁₋₁₂ alkyl substituted with 1-12 fluorine atoms and 0-2 hydroxyl groups, or C₃₋₁₅ alicyclic, or R⁴ and R⁵ together form a five-, six-, or seven-membered ring,

R⁶ is H, C₁₋₁₂ alkyl, or C₁₋₁₂ fluoroalkyl, or R⁴ and R⁶ together form a five-, six-, or seven-membered ring, and

R⁷ is H, C₁₋₁₂ alkyl, or C₁₋₁₂ fluoroalkyl, or R⁷ and R⁵ together represent -X-(CR⁸R⁹)_n-, in which case R⁴ and R⁶ are H, X is O or CH₂, n is 1 or 2, R⁸ and R⁹ are H, C₁₋₁₂ alkyl, or C₁₋₁₂ fluoroalkyl, or together form an oxo moiety (=O), with the proviso that when R⁸ and R⁹ together form =O, n is 1,

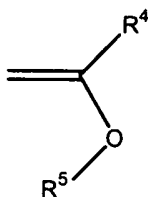
wherein any of R¹, R³, R⁴, R⁵, R⁶, and R⁷ may be further substituted with an inert, nonhydrogen substituent.

2. (Amended) The copolymer of Claim 29, wherein R¹ is CF₃.

14. (Amended) The copolymer of Claim 13, wherein R is selected from the group consisting of 2-methyl-2-adamantyl, 2-methyl-2-isobornyl, 2-methyl-2-tetracyclododecenyl, 2-methyl-2-dihydrodicyclopentadienyl-cyclohexyl, 1-methylcyclopentyl, and 1-methylcyclohexyl.

15. (Amended) The copolymer of Claim 1, wherein the second monomer has the structure of formula (III)

(III)



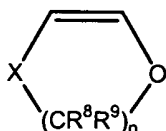
wherein:

R⁴ is H, C₁₋₁₂ alkyl, C₃₋₁₅ alicyclic, or fluorinated C₃₋₁₅ alicyclic; and

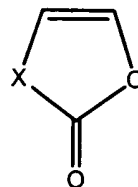
R⁵ is C₁₋₁₂ alkyl, C₁₋₁₂ alkyl substituted with 1-12 fluorine atoms and 0-2 hydroxyl groups, or C₃₋₁₅ alicyclic.

16. (Amended) The copolymer of Claim 1, wherein the second monomer has a structure selected from the group consisting of (IV), (V), and (VI)

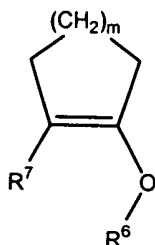
(IV)



(V)



(VI)



wherein:

R⁶ is H, C₁₋₁₂ alkyl, or C₁₋₁₂ fluoroalkyl;

R⁷ is H, C₁₋₁₂ alkyl, or C₁₋₁₂ fluoroalkyl;

X is O or CH₂;

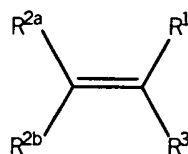
m is an integer between 1 and 3; and

R⁸ and R⁹ are H, C₁₋₁₂ alkyl, or C₁₋₁₂ fluoroalkyl.

23. (Amended) A process for generating a resist image on a substrate, comprising the steps of:

(a) coating a substrate with a film of a photoresist comprised of a radiation-sensitive acid generator and a copolymer synthesized from a first monomer having the structure of formula (I)

(I)



wherein

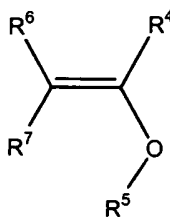
R¹ is H, F, CN, CH₃, or C₁₋₆ fluoroalkyl,

R^{2a} and R^{2b} are independently H or F, and

R³ is CN or COOR, wherein R is selected from the group consisting of H, C₁₋₁₂ alkyl and C₁₋₁₂ fluoroalkyl, or is selected so as to render R³ acid-cleavable, with the proviso that when R³ is CN, then R¹ is CF₃ and R^{2a} and R^{2b} are H; and

a second monomer having the structure of formula (II)

(II)



wherein

R⁴ is H, C₁₋₁₂ alkyl, C₃₋₁₅ alicyclic or fluorinated C₃₋₁₅ alicyclic,

R⁵ is C₁₋₁₂ alkyl, C₁₋₁₂ alkyl substituted with 1-12 fluorine atoms and 0-2 hydroxyl groups, or C₃₋₁₅ alicyclic, or R⁴ and R⁵ together form a five-, six-, or seven-membered ring,

R⁶ is H, C₁₋₁₂ alkyl, or C₁₋₁₂ fluoroalkyl, or R⁴ and R⁶ together form a five-, six-, or seven-membered ring,

R⁷ is H, C₁₋₁₂ alkyl, or C₁₋₁₂ fluoroalkyl, or R⁷ and R⁵ together represent

AS
cont

$-X-(CR^8R^9)_n-$, in which case R^4 and R^6 are H, X is O or CH_2 , n is 1 or 2, R^8 and R^9 are H, C_{1-12} alkyl, or C_{1-12} fluoroalkyl, or together form an oxo moiety ($=O$), with the proviso that when R^8 and R^9 together form $=O$, n is 1,

wherein any of R^1 , R^3 , R^4 , R^5 , R^6 , and R^7 may be further substituted with an inert nonhydrogen substituent;

(b) exposing the film selectively to a predetermined pattern of radiation so as to form a latent, patterned image in the film; and

(c) developing the latent image with a developer.

24. (Amended) In a lithographic photoresist composition comprised of a polymer transparent to deep ultraviolet radiation and a radiation-sensitive acid generator, the improvement comprising employing as the polymer a copolymer synthesized from a first monomer having the structure of formula (I)



wherein

R^1 is H, F, CN, CH_3 , or C_{1-6} fluoroalkyl,

R^{2a} and R^{2b} are independently H or F, and

R^3 is CN or COOR, wherein R is selected from the group consisting of H, C_{1-12} alkyl and C_{1-12} fluoroalkyl, or is selected so as to render R^3 acid-cleavable, with the proviso that when R^3 is CN, then R^1 is CF_3 and R^2 is H, and

a second monomer having the structure of formula (II)



wherein

AS cont

R^4 is H, C_{1-12} alkyl, C_{3-15} alicyclic, or fluorinated C_{3-15} alicyclic,

R^5 is C_{1-12} alkyl, C_{1-12} alkyl substituted with 1-12 fluorine atoms and 0-2 hydroxyl groups, or C_{3-15} alicyclic, or R^4 and R^5 together form a five-, six-, or seven-membered ring,

R^6 is H, C_{1-12} alkyl, or C_{1-12} fluoroalkyl, or R^4 and R^6 together form a five-, six-, or seven-membered ring;

R^7 is H, C_{1-12} alkyl, or C_{1-12} fluoroalkyl, or R^7 and R^5 together represent $-X-(CR^8R^9)_n$, in which case R^4 and R^6 are H, X is O or CH_2 , n is 1 or 2, R^8 and R^9 are H, C_{1-12} alkyl, or C_{1-12} fluoroalkyl, or together form an oxo moiety ($=O$), with the proviso that when R^8 and R^9 together form $=O$, n is 1,

wherein any of R^1 , R^3 , R^4 , R^5 , R^6 , and R^7 may be further substituted with an inert nonhydrogen substituent.

Add new claims 29-31 as indicated in Appendix C. The new claims are reproduced below:

Al

29. (New) The copolymer of claim 1, wherein R^1 is H, F, CN, CH_3 , CF_3 , CF_2H , or CFH_2 .

30. (New) The copolymer of claim 29, wherein at least one of R^1 , R^3 , R^4 , R^5 , R^6 , or R^7 is further substituted with an inert nonhydrogen substituent.

31. (New) The copolymer of claim 30, wherein the inert nonhydrogen substituent is selected from the group consisting of F, C_{1-12} alkyl, C_{1-12} alkoxy, C_{1-12} alkenyl, C_{1-12} alkenyloxy, C_{1-12} fluoroalkyl, C_{1-12} fluoroalkoxy, and C_{1-12} fluoroalkenyl.

REMARKS

With the present amendment, claims 1, 2, 14-16, 23, and 24 have been amended and new claims 29-31 have been added. The amendments and new claims find support throughout the original disclosure, as indicated in the following table:

CLAIM(S)	CLAIM ELEMENT (PREVIOUSLY RECITED ELEMENTS NOT INCLUDED)	LOCATION OF SUPPORT
1, 23, and 24	R^1 is H, F, CN, CH_3 , or C_{1-6} fluoroalkyl.	Page 5, line 2.
1, 15, 23, and 24	R^4 is H, C_{1-12} alkyl, C_{3-15} alicyclic, or fluorinated C_{3-15} alicyclic.	Page 5, line 10.